

## ML4202, ML4302, ML4702, ML4802, ML8202, ML8302 Fast-Acting, Two-Position Actuators FOR FIRE/SMOKE CONTROL APPLICATIONS



### INSTALLATION INSTRUCTIONS

#### APPLICATION

The ML4202, ML4302, ML4702, ML4802, ML8202, ML8302 Fast-Acting, Two-Position Actuators are spring return direct coupled actuators (DCA) with an integral junction box for on/off damper control. The actuator accepts an on/off signal from a single-pole, single-throw (spst) controller. Models are available with clockwise (cw) or counterclockwise (ccw) spring return.

#### APPLICABLE LITERATURE

- Motor/Actuator Selection Guide for Damper Applications 63-8419
- Engineering Manual of Automatic Control (also called The Gray Manual) 77-1100
- Direct Coupled Actuator Quick Selection Guide 63-8553
- Damper Torque Calculator 63-8437

#### SPECIFICATIONS

##### IMPORTANT

*The actuator is designed to meet UL555S standards at 350°F (176°C). The actuator must be tested with the damper to achieve this rating.*

**Models:** See Table 1.

**Dimensions:** See Fig. 1.

**Minimum Damper Shaft Length:** 1-3/4 in. (45 mm).

**Device Weight:** 5 lb (2.3 kg).

**Stroke:** 95° ± 3°, mechanically limited.

**Electrical Ratings:** See Table 1.

##### Electrical Connections:

Two color coded 16 in. leads; includes ground screw. One 7/8 in. hole for conduit connections (fittings not included).

**Mounting:** 3/8 to 1/2 in. square or round damper shafts.

Actuator can be mounted with shaft in any position. Secure hub to shaft with: Two 1/4-28 UNF set screws. Use 1/8 in. Allen wrench to tighten set screws.

##### IMPORTANT

*Honeywell does not recommend using linkages with these actuators because side-loading of the output hub reduces actuator life.*

##### Ambient Ratings:

Operating Temperature: 0 to 130°F (-18 to 55°C).

Shipping/Storage Temperature: -40 to 140°F (-40 to 60°C).  
Humidity: 5% to 95% rh, noncondensing.

##### Torque Rating (at rated voltage):

Typical Holding: 100 lb-in. (11.3 N•m).  
Stall Maximum: 150 lb-in. (17 N•m).  
Spring Return: 20 lb-in. (2.2 N•m).  
350°F Driving: 20 lb-in. (2.2 N•m).

**Design Life (at Rated Voltage):** 60,000 full stroke cycles.

##### Noise Rating (Maximum):

Driving Open: 65 dBA at 1m.  
Holding: 20 dBA at 1m (no audible noise).

Table 1. Models.

Model	Spring Return Direction	Power Consumption		Voltage Input in Vac
		Running	Holding	
ML4202	cw	0.18A, 18W	0.11A, 9W	120 ±10%, 60 Hz
ML4302	ccw			
ML4702	cw	0.13A, 18W	0.10A, 11W	230 ±10%, 50/60 Hz
ML4802	ccw			
ML8202	cw	16 VA	8 VA	24 +20%, -10% 50/60 Hz
ML8302	ccw			

##### Cycling Requirements:

Prolonged holding-period (1 year) testing of these actuators has been performed with no spring return failures. The actuator and the internal spring are designed to require no special cycling during long-term holding.

Honeywell recommends following all local, state and national codes for periodic testing of the entire smoke control system. Refer to National Fire Protection Association (NFPA) National Fire Codes®: NFPA90A, NFPA92A and NFPA92B for your application.

NFPA recommends periodic examination of each fire/smoke damper (semi-annually or annually) to ensure proper performance.

##### Timing (At Rated Torque and Voltage):

Drive Open:  
ML4202, ML4302, ML4702, ML4802: 25 sec maximum, 18 sec typical.  
ML8202, ML8302: 25 sec maximum, 22 sec typical.  
Spring Close: 15 sec.

**Environmental Protection Ratings:** NEMA1.

**Approvals:** See Table 2.



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**Controller Type:**

ML4202, ML4302: Line voltage (120 Vac), two-position, spst (Series 40).

ML4702, ML4802: Line voltage (230 Vac), two-position, spst (Series 40).

ML8202, ML8302: Low voltage (24 Vac), two-position, spst (Series 80).

**Accessories:**

201391 Shaft Adapter for 3/8 in. shafts (not supplied with actuator).

205649 Mounting Bracket (not supplied with actuator).

32003532-005 Dual Auxiliary Switch Package for high-temperature applications.

**Table 2. Approvals.**

	ML4202 ML4302	ML4702 ML4802	ML8202 ML8302
UL/cUL	X	X	X
UL873 Plenum Rating, File No. E4436; Guide No. XAPX.	X	X	X
CE		X	X
C-TICK		X	

**⚠ WARNING**

**Electrical Power Hazard.**

Line voltage can cause death or serious injury and short equipment circuitry.

Disconnect power supply before installation.

**⚠ CAUTION**

**Electrical Shock or Equipment Damage Hazard.**

Low voltage can shock individuals or short equipment circuitry.

Disconnect power supply before installation.

**⚠ CAUTION**

**Equipment Damage Hazard.**

Tightly securing actuator to damper housing can damage actuator.

Mount actuator to allow it to float along its vertical axis.

**⚠ CAUTION**

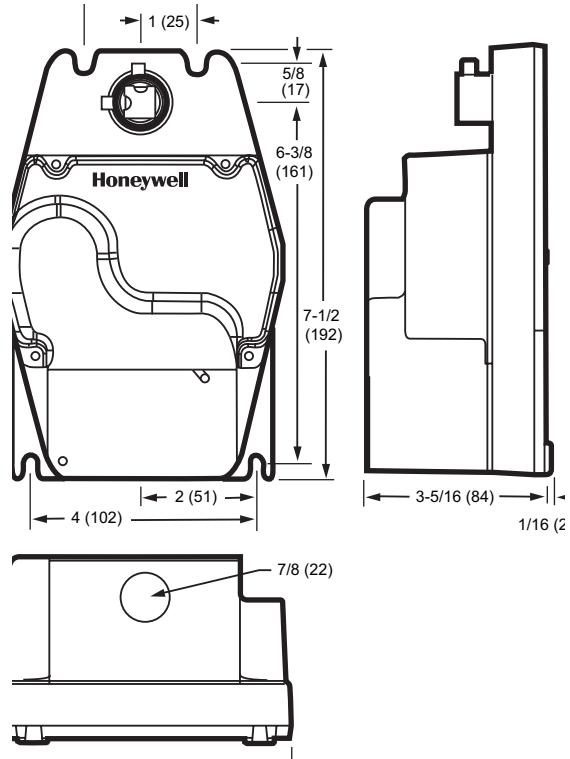
**Actuator Damage Hazard.**

Using actuator as shaft bearing causes device damage.

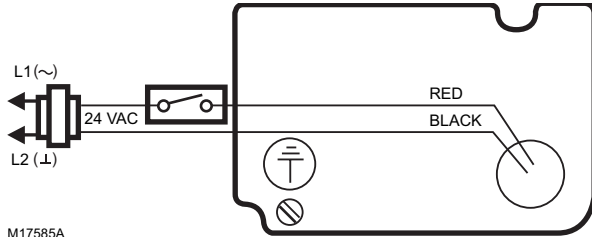
Use actuator only to supply rotational torque. Avoid any side loads to actuator output coupling bearings.

**IMPORTANT**

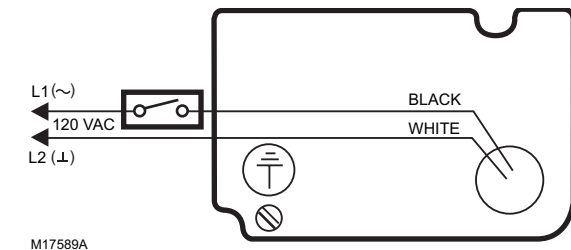
1. All wiring must comply with local electrical codes, ordinances and regulations.
2. Voltage and frequency of transformer used with ML8202 and ML8302 must correspond with the characteristics of power supply and actuator.
3. Use wires rated for at least 75°C (167°F).
4. For actuators with a product date code before 0527, a power break of less than two seconds can cause the actuator to spring-return 5 degrees or less and remain in place until a power break of longer duration. For actuators with a product date code of 0527 or after, a power break of any duration will cause the actuator to spring-return and be able to drive immediately when power is reapplied.



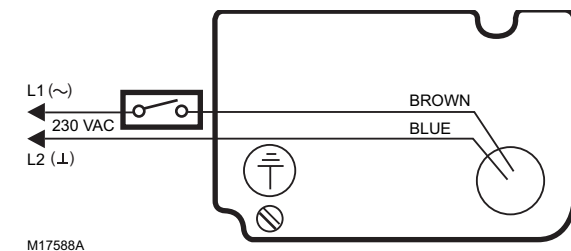
**Fig. 1. ML4202, ML4302, ML4702, ML4802, ML8202, ML8302 dimensional drawing in in. (mm).**



**Fig. 2. Typical 24 Vac wiring.**

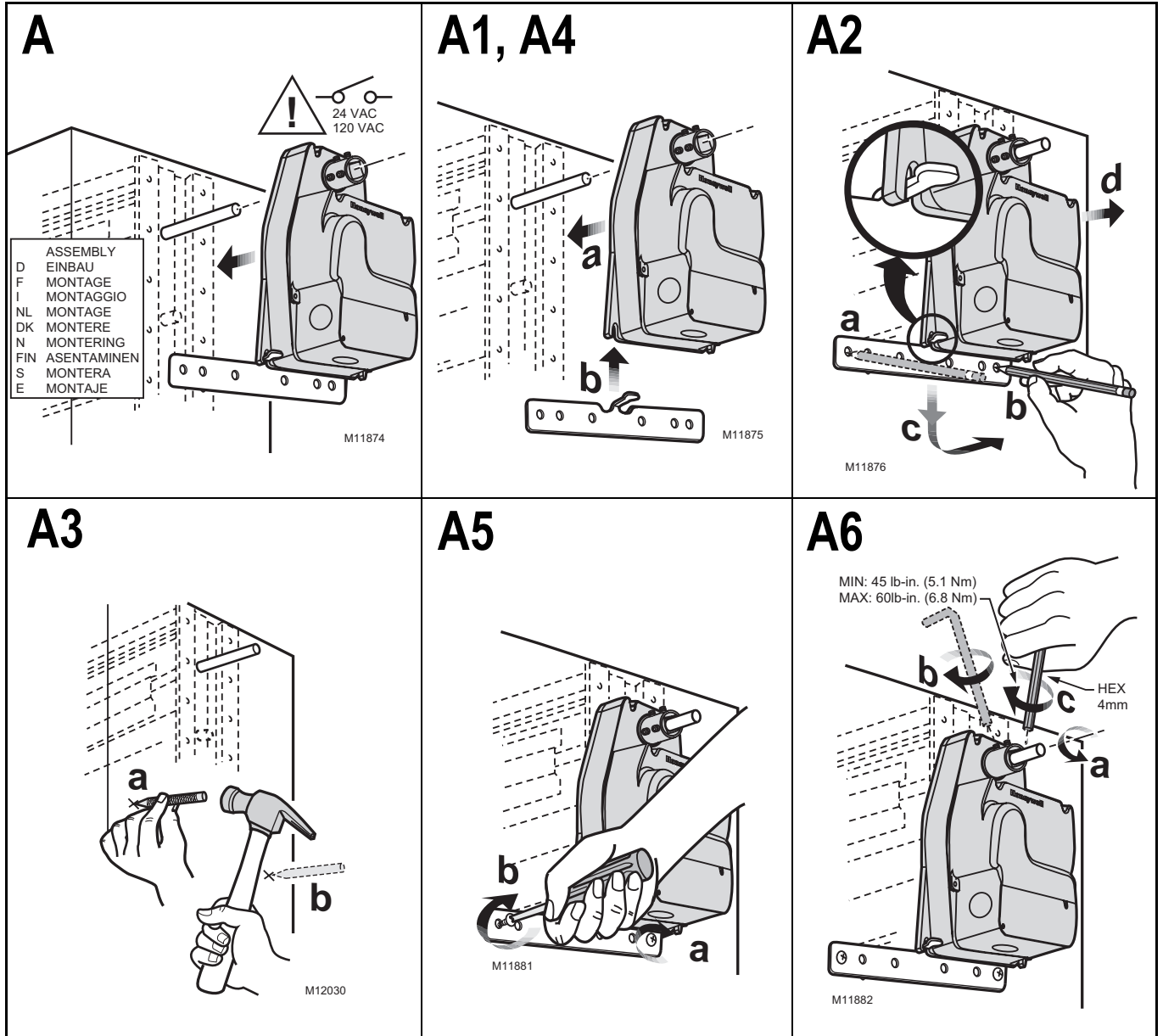


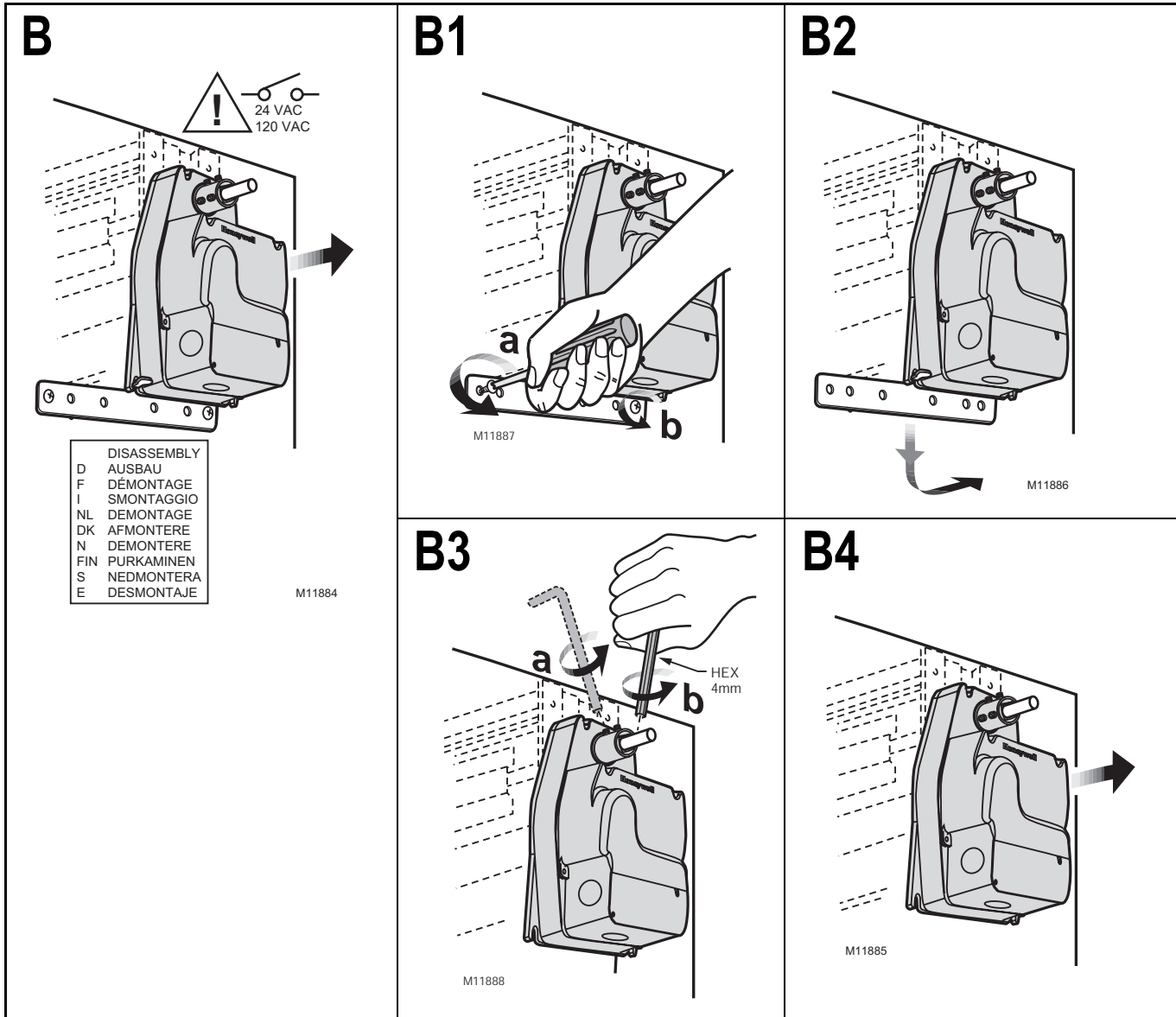
**Fig. 3. Typical 120 Vac wiring.**



**Fig. 4. Typical 230 Vac wiring.**

- D Montageanweisung
- F Instructions d'Installation
- I Istruzioni per l'Installazione
- NL Installatievoorschrift
- DK Installasjonsinstruks
- N Installationsinstruktioner
- SF Asennusohje
- S Installations Instruktioner
- E Instrucciones de montaje





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